

MOTION IN GAMES @ EG 2016

PROGRAM

[LONG] papers have a 20mn presentation slot (17mn presentation 3mn questions)

[SHORT] papers have a 15mn presentation slot (12mn presentation 3mn questions)

SATURDAY May 7th

1pm-2pm :registration/welcome

2pm-3pm : Keynote talk #1: Bob SUMNER

Title: Amplifying Creativity in Animation and Games

Abstract: "Art challenges technology, and technology inspires the art." These are the words John Lasseter used to describe his experience as an artist working with the technology leaders at Pixar three decades ago to pioneer what we know today as computer-generated animation. At the heart of this statement lies the idea that technology and art, when joined together, hold a unique and promising potential to amplify creativity. This very concept forms the central vision of the Animation and Games group at Disney Research Zurich. In this keynote talk, I will share our experiences as researchers working with Disney artists on technology to amplify creativity, including several tough challenges that art has given us, as well as a few successes in which we could inspire the art. Attendees can expect examples of recent research advances in animation, simulation, stylization, and, in Disney style, a little bit of singing.

3pm-3:55pm: Session #1: Character animation and motion-capture

#1 - Reduced Marker Layouts for Optical Motion Capture of Hands [LONG]

Matthias Schröder, Jonathan Maycock and Mario Botsch

#57 - Adaptation Procedure for HMM-Based Sensor-Dependent Gesture Recognition [SHORT]

Sohaib Laraba, Joëlle Tilmanne and Thierry Dutoit

#19 - Deep Signatures for Indexing and Retrieval in Large Motion Databases [LONG]

Yingying Wang and Michael Neff

4:00-4:30 - Coffee break

4:30-5:30 Session #2: Character animation

#2 - Eye Movement Synthesis with 1/f Pink Noise [LONG]

Andrew Duchowski, Sophie Joerg, Aubrey Lawson, Takumi Bolte, Lech Swirski and Krzysztof Krejtz

#43 - Motion Control via Muscle Synergies: Application to Throwing [LONG]

Ana Lucia Cruz Ruiz, Charles Pontonnier, Jonathan Levy and Georges Dumont

#16 - A Closed-Form Solution for Human Finger Positioning [SHORT]

Roel Duits, A. Frank van der Stappen and Arjan Egges

5:30pm-6:15pm: Session #3: Crowds

#7 - An Analysis of Manoeuvring in Dense Crowds (SHORT)

Sybren A. Stüvel, Arjan Egges, Frank van der Stappen and Thijs de Goeij

#12 - Evaluating and Optimizing Level of Service for Crowd Evacuations [SHORT]

Brandon Haworth, Muhammad Usman, Glen Berseth, Mubbasir Kapadia and Petros Faloutsos

#3 - ACCLMesh: Curvature-Based Navigation Mesh Generation [SHORT]

Glen Berseth, Mubbasir Kapadia and Petros Faloutsos

6:15-8:00 Poster & Social event

SUNDAY, May 8th

9:00 -9:50 Session #4: Planning

#33 - Automated Interactive Narrative Synthesis using Dramatic Theory [LONG]

Carlos Antonio Dominguez, Yuya Ichimura and Mubbasir Kapadia

#6 - RT-RRT*: A Real-Time Path Planning Algorithm Based On RRT* [SHORT]

Kourosh Naderi, Joose Rajamäki and Perttu Hämäläinen

#48 - Multi-Modal Data-Driven Motion Planning and Synthesis [SHORT]

Mentar Mahmudi and Marcelo Kallmann

9:50am - 10:50am

Keynote talk #2 Jean-Paul Laumond

Title: The Yoyo-Man

Abstract: Humans are not walking, they are rolling! The objective of the talk is to give sense to this obscure statement. Indeed, the wheel may be a plausible model of bipedal walking. We report on preliminary results developed along three perspectives combining biomechanics, neurophysiology and robotics. From a motion capture

data basis of human walkers we first identify the center of mass (CoM) as a geometric center from which the motions of the feet are organized. Then we show how rimless wheels that model most passive walkers are better controlled when equipped with a stabilized mass on top of them. CoM and head play complementary roles that define what we call the Yoyo-Man.

10:50 - 11:10: Coffee Break

11:10-12:00 :Session #7: Collisions

#53 - Clustering and Collision Detection for Clustered Shape Matching [SHORT]

Ben Jones, April Martin, Josh Levine, Tamar Shinar and Adam Bargteil

#51 - Fast Contact Determination for Intersecting Deformable Solids [LONG]

Oscar Civit-Flores and Antonio Susín

#39 - Collision Detection for Articulated Deformable Characters [SHORT]

Nadine Abu Rumman, Marco Schaerf and Dominique Bechmann

12:00 - 12:10pm: Motion in Games 2016 [Michael Neff]

12:00 - 2:00pm: Lunch

2pm-3pm Session #5: Simulation

#37 - Interactive Arbitrarily Detailed Cutting of Thin Sheets [LONG]

Pierre-Luc Manteaux, Wei-Lun Sun, François Faure, Marie-Paule Cani and James F. O'Brien

#31 - Interactive procedural simulation of paper tearing with sound [SHORT]

Thibault Lejemble, Amélie Fondevilla, Nicolas Durin, Thibault Blanc-Beyne, Camille Schreck, Pierre-Luc Manteaux, Paul G. Kry and Marie-Paule Cani

#29 - Camera-on-rails: Automated Computation of Constrained Camera Paths [LONG]

Quentin Galvane, Marc Christie, Christophe Lino and Rémi Ronfard

3:00pm - 4:25pm Session #6: Taking control

#13 - The Sea Is Your Mirror (SHORT)

Marc Parenthoën, Fred Murie and Flavien Thery

#8 - Crowd Art: Density and Flow Based Crowd Motion Design [LONG]

Kevin Jordao, Panayiotis Charalambous, Marc Christie, Julien Pettre and Marie-Paule Cani

#20 - Real-time gait control for partially immersed bipeds [SHORT]

Samuel Carensac, Nicolas Pronost and Saida Bouakaz

#40 - Robust Balance Shift Control with Posture Optimization [LONG]

Zumra Kavafoglu, Ersan Kavafoglu and Arjan Egges

#22 - Carpet Unrolling Descriptors for Character Control On Uneven Terrain [SHORT]

Mark Miller, Daniel Holden, Rami Al-Ashqar, Christophe Dubach, Kenny Mitchell and Taku Komura

4:25pm - 4:45pm: Coffee break

4:45pm -5:55 pm : Session #8: Realism, aesthetics, visualization and registration

#52 - Animation Realism Affects Perceived Character Appeal of a Self-Virtual Face [SHORT]

Elena Kokkinara and Rachel McDonnell

#42 - Fin Textures for Real-Time Painterly Aesthetics [LONG]

Nicolas Imhof, Antoine Milliez, Flurin Jenal, Rene Bauer, Markus Gross and Robert W. Sumner

#10 - HeapCraft: Interactive Data Exploration and Visualization Tools for Understanding and Influencing Player Behavior in Minecraft [SHORT]

Stephan Müller, Barbara Solenthaler, Mubbasir Kapadia, Seth Frey, Severin Klingler, Richard Mann, Robert W. Sumner and Markus Gross

#28 - Automatic and Adaptable Registration of Live RGBD Video Streams [LONG]

Afsaneh Rafighi, Sahand Seifi and Oscar Meruvia-Pastor